



West Winch Housing Access Road Transport Assessment TA Appendix 1

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Contents

Foreword	3
1 Glossary of Abbreviations and Defined Terms	4
2 Introduction	6
3 Scheme Proposals	8
4 Policy Review	9
5 Existing Conditions.....	11
5.1 Existing Accessibility Review.....	11
5.2 Personal Injury Accident (PIA) Data	11
6 Baseline Conditions	13
6.1 Baseline Conditions Overview.....	13
6.2 Paramics Discovery Model.....	13
6.3 Kings Lynn Transport Model.....	14
6.4 Background Traffic Growth.....	15
6.5 Committed Development.....	16
6.6 Committed Infrastructure Enhancements	17
7 Impact Assessment.....	19
7.1 Impact on Non-Motorised Users (NMU)	19
7.2 Assessment of Traffic Impacts	19
7.3 Road Safety Impact of the Scheme.....	20
7.4 Mitigation.....	21
7.5 Construction Traffic Impact.....	21

Tables

Table 6-1 - NTEM 8.0 (Core) Norfolk Planning Data Growth	16
Table 6-2 - LGV and HGV Growth factors (2019 - 2027)	16
Table 6-3 - LGV and HGV Growth Factors (2018 - 2042)	16
Table 6-4 Committed Developments	18

Figures

Figure 2-1 WWHAR Location Plan.....	7
Figure 5-1 Personal Injury Accident Study Area.....	12
Figure 6-1 Paramics Model Study Area.....	14



Foreword

WSP has been appointed to produce a Transport Assessment (TA) on behalf of Norfolk County Council (NCC) to accompany the planning application for the proposed West Winch Housing Access Road scheme. Within this document WSP sets out the proposed Scope of the TA.



1 Glossary of Abbreviations and Defined Terms

Abbreviation	Defined Term
AADT	Annual Average Daily Traffic
BCKLWN	Borough Council of Kings Lynn and West Norfolk
CEMP	Construction Environmental Management Plan
DfT	Department for Transport
DM	Do Minimum
DoS	Degree of Saturation
DS	Do Something
ES	Environmental Statement
KLTM	Kings Lynn Transport Model
NCC	Norfolk County Council
NH	National Highways
NMU	Non-Motorised User
NPPF	National Planning Policy Framework
NRTF	National Road Traffic Forecast
OBC	Outline Business Case
OCEMP	Outline Construction Environmental Management Plan
PIC	Personal Injury Collisions
PPG	Planning Practice Guidance



Abbreviation	Defined Term
PROW	Public Rights of Way
PT	Public Transport
RFC	Ratio of Flow to Capacity
SRN	Strategic Road Network
SSD	Safe, Sustainable Development
TA	Transport Assessment
TAG	Transport Assessment Guidance
TEMPro	Trip End Model Presentation Programme
WCHAR	Walking, Cycling & Horse Riding Assessment
WWHAR	West Winch Housing Access Road
WWGA	West Winch Growth Area



2 Introduction

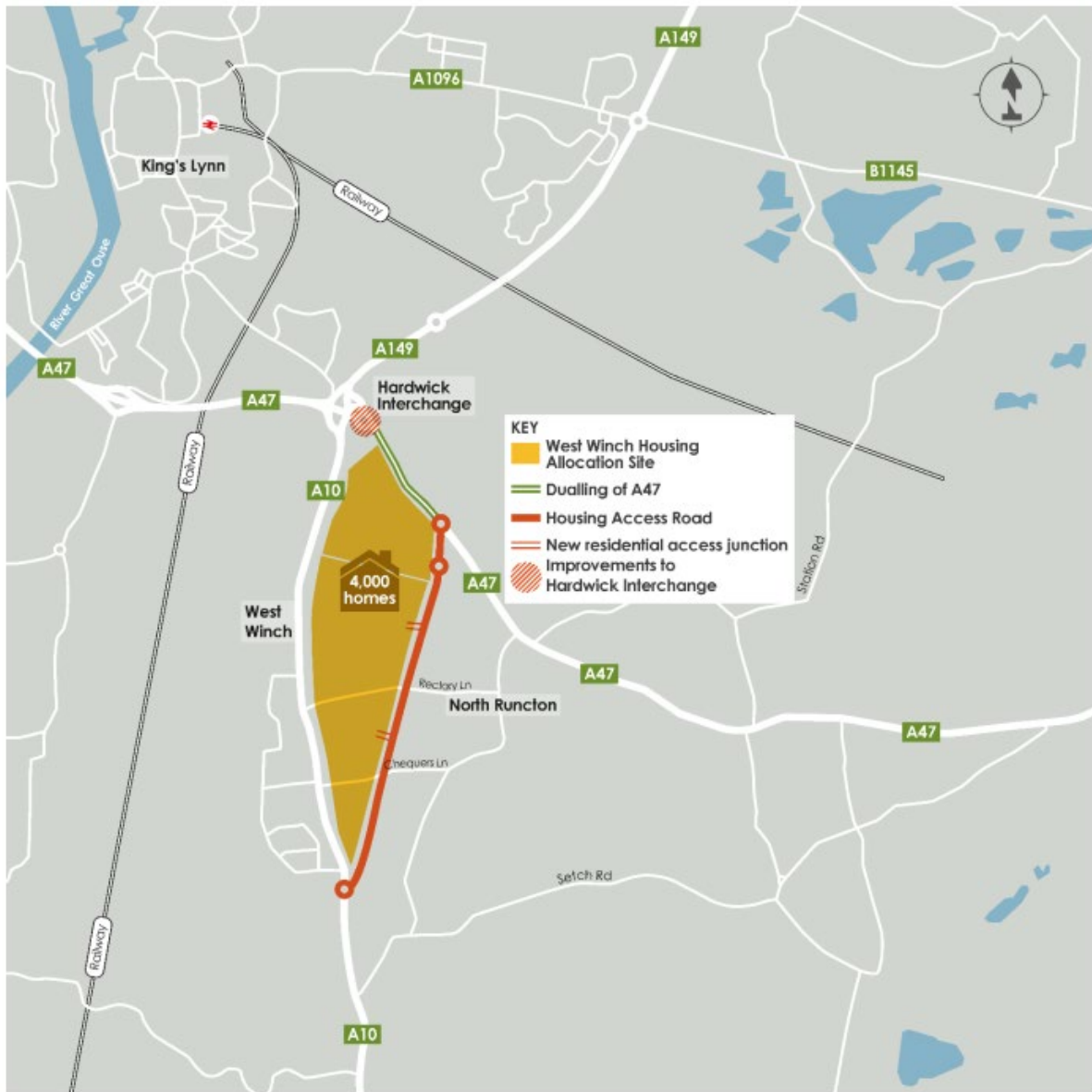
- 2.1.1 WSP has been appointed to produce a Transport Assessment (TA) on behalf of Norfolk County Council (NCC) to accompany the planning application for the proposed West Winch Housing Access Road (WWHAR) scheme (herein after referred to as the 'Proposed Scheme').
- 2.1.2 This document sets out the Scope of assessment for the TA, taking into account feedback from discussions with the NCC Development Management Team and National Highways since 2019. Most recently discussions have taken place in October 2023, following submission to DfT of the Outline Business Case for the Proposed Scheme.
- 2.1.3 The proposed WWHAR single carriageway link (referred to as 'the Classified Road') has been identified as a key infrastructure scheme required to unlock housing growth across the district. The scheme is highlighted in the emerging Borough Council of Kings Lynn and West Norfolk (BCKLWN) Local Plan Review as a requirement to facilitate strategic development of around 4000 dwellings to the south west of Kings Lynn (referred to as the west Winch Growth Area or WWGA). A public consultation was held by BCKLWN in July 2022 on their illustrative masterplan.
- 2.1.4 Further public consultation was carried out by Norfolk County Council in respect of the Proposed Scheme from late 2022 to early 2023. Further details of consultation carried out are provided in the **Statement of Community Involvement** (Document Reference **NCC/1.03.00/WWHAR**).

Site location

- 2.1.5 The Proposed Scheme is located to the south east of Kings Lynn to the east of the existing A10 which runs north-south through the village of West Winch. The WWHAR would bypass the village and offer additional highway capacity and allow traffic travelling to and from the east to avoid the Hardwick Interchange.



Figure 2-1 WWHAR Location Plan





3 Scheme Proposals

- 3.1.1 This section of the TA will explain the details of the Proposed Scheme and its assumed construction programme. The TA will include information on the proposed highway alignment, treatment of sideroads and existing PROW links crossing the scheme, construction phasing and access, and proposed works from A10 south of West Winch to A47 and modifications to part of A47 and the Hardwick Interchange.
- 3.1.2 A summary of potential scheme benefits and the proposed mitigation package in the form of a **Sustainable Transport Strategy** (Document Reference **NCC/4.02.00/WWHAR**) and works to the existing A10 through West Winch that accompanies the scheme, seeking to encourage mode shift for shorter distance trips will also be provided.



4 Policy Review

4.1.1 An extensive review of adopted and emerging transport and development policy will be carried out – at both national and local levels, particularly bespoke to the WWHAR study area. This would include the following documents:

- National Planning Policy Framework (NPPF) 2023;
- Planning Practice Guidance (PPG), 2023;
- The DfT Circular 01/22 (2022) – Strategic road network and the delivery of sustainable development
- Gear Change: A Bold Vision for Walking & Cycling (2020);
- Decarbonising Transport: A Better, Greener Britain (2021)
- The Clean Growth Strategy (2017)
- Clean Air Strategy (2019)
- Net Zero Strategy: Build Back Greener (2021)
- National Design Guide (2021)
- National Model Design Code (2021)
- Cycle Infrastructure Design Local Transport Note LTN 1/20 (2020);
- Active Travel: Local Authority Toolkit (2022)
- Inclusive Mobility: A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure (2021)
- The Second Cycling and Walking Investment Strategy (2023)
- Norfolk Strategic Framework – Shared Spatial Objectives for a Growing County (July 2017)
- Norfolk Strategic Infrastructure Delivery Plan (2022)



- Norfolk Local Transport Plan 4 Implementation Plan (2022)
- Safe, Sustainable Development (SSD, revised July 2022)
- Norfolk County Council Local Transport Plan 4 2021 – 2036
- Norfolk Bus Service Improvement Plan (2021)
- King's Lynn Local Cycling and Walking Infrastructure Plan Main Report (2022)
- King's Lynn and West Norfolk Local Plan
- King's Lynn and West Norfolk Borough Council Local Plan (Core Strategy) 2011
- King's Lynn & West Norfolk Site Allocations And Development Management Policies (2016)
- North Runcton and West Winch Neighbourhood Plan (2017)
- Emerging King's Lynn & West Norfolk Local Plan Review (2016-2036)
- King's Lynn Transport Strategy (2019)
- Draft Southeast King's Lynn Growth Area Framework Masterplan Spatial Planning Document July 2022
- BCKLWN Climate Change Policy (October 2020)
- Norfolk County Council Local Transport Plan (LTP4) 2020 – 2037 (2022)
- Norfolk County Council Climate Strategy (2023)



5 Existing Conditions

5.1 Existing Accessibility Review

- 5.1.1 A review of the local walking, PROWs (Public Rights of Way), cycling and public transport networks and road safety in the vicinity of the WWHAR scheme has been undertaken as part of the STS and WCHAR (Walking Cycling and Horse Riding Assessment) that have informed the TA.
- 5.1.2 Existing walking, cycling and public transport networks in the vicinity of the Proposed WWHAR Scheme will be summarised in the TA.
- 5.1.3 Isochrone analysis will be used to assess accessibility, both with the proposed development, to understand the future situation in the vicinity of the site as a result of the proposed development and benefits that can be brought by new access routes through the WWGA housing site.
- 5.1.4 For walking accessibility, a 30-minute time catchment based on an average walking speed of 80m/minute would be assumed, with isochrones shown in 5-minute distance bands; and
- 5.1.5 For cycling accessibility, a 30-minute catchment would be considered based on average cycle speeds of 200m/minute.

5.2 Personal Injury Accident (PIA) Data

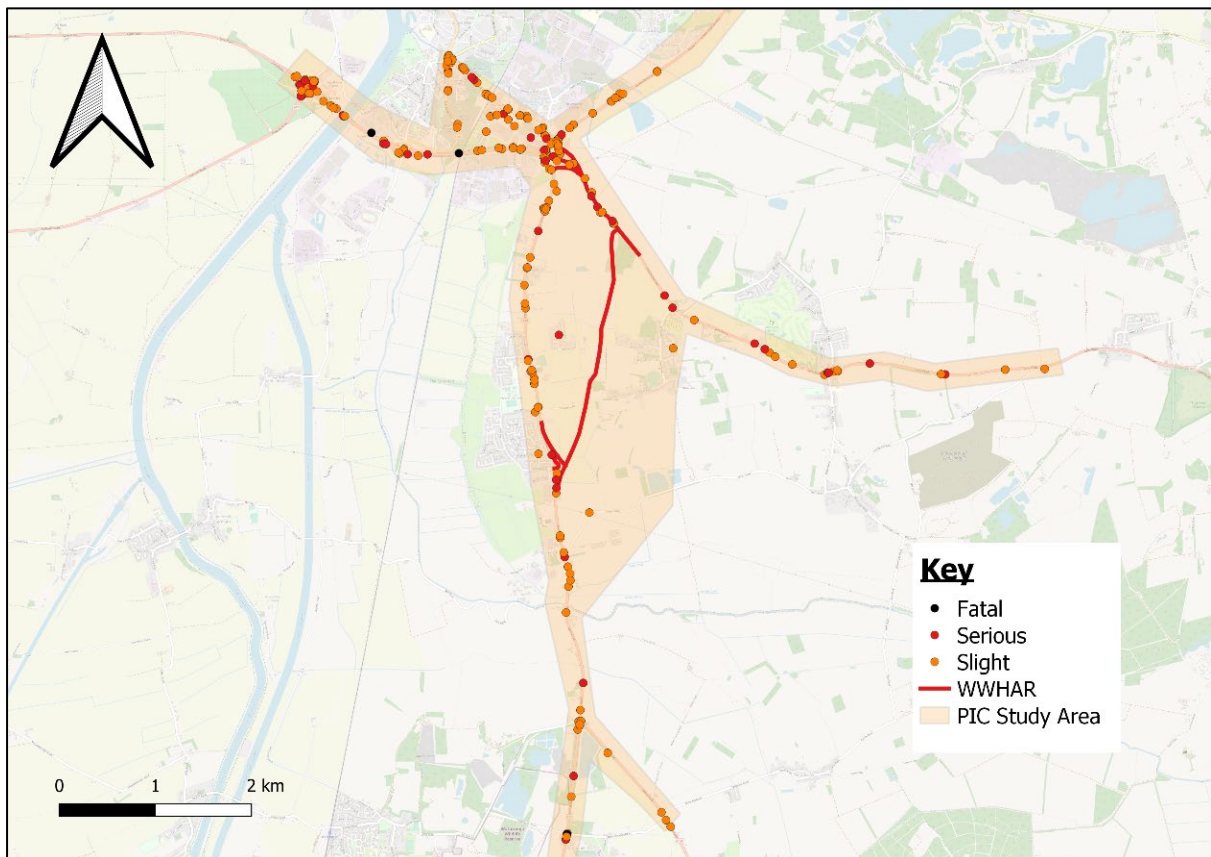
5.2.1 To assess the safety of the existing road network WSP has obtained the latest available 7 years of Personal Injury Collisions(PIC) data for the local area from NCC. PICs which occurred between 2016 and 2022 inclusive have been obtained for the area, as shown in **Figure 5-1**.

- From analysis of the data 'accident clusters', areas classified as a 'high risk accident area' or patterns if present will be identified:
- An NCC 'accident cluster' being where 5 or more PIAs have occurred in a 3-year period are within a 50m radius (urban) or 100m radius (rural);



- Where 'Urban' is defined as an area with a 40mph speed limit or less and 'rural' is an area with a speed limit of 50mph or more; and
- A 'high risk accident route' is a route with higher than normal accident rate that NCC has identified for an 'Accident Reduction Scheme' or 'Route Safety Scheme' - there are no such schemes within the study area.

Figure 5-1 Personal Injury Accident Study Area





6 Baseline Conditions

6.1 Baseline Conditions Overview

6.1.1 This section will set out the future situation in the opening year of 2027 and design year of 2037. The planned developments will be captured in an Uncertainty Log and those which are near certain or more than likely will be included in the baseline forecast.

6.1.2 The West Winch Growth Area as identified in the South East Kings Lynn Masterplan Framework dated July 2022 is expected to include 3,700 dwellings which are dependent on the Proposed WWHAR Scheme. Only 300 dwellings within the WWGA can proceed prior to the opening of the new road. Therefore, only 300 dwellings within the WWGA are to be included in the Do Minimum Scenario. This is based on the A10 Headroom analysis set out in document FD51 of the Local Plan Review evidence base as supplied in response to the Inspectors questions.

6.1.3 A copy of the report is enclosed at **Appendix 3** of the TA (Document Reference **NCC/4.01.03/WWHAR**). A copy of the July 2022 masterplan is also include in **Appendix 2** of the TA (Document Reference **NCC/4.01.02/WWHAR**).

6.2 Paramics Discovery Model

6.2.1 The TA will use a localised Paramics model for assessing the junctions on existing A10, and A47 plus Hardwick Interchange and Scania Way junction with A149. The study area for the Paramics modelling within the TA Scope of assessment are shown below in Figure 6-1.

6.2.2 The Paramics model offers a more detailed view of the network and individual junction performance than can be supplied by the wider Kings Lynn Transport Model. Whist still offering a network view of the immediate area around the Proposed Scheme it also offers more detail on queues and delays, as well as allowing localised re-routing of traffic in response to the scheme and measures proposed on the A10.



6.2.3 Further details of the Paramics modelling methodology is contained within Appendix 5 of the TA (

Figure 6-1 Paramics Model Study Area



6.3 Kings Lynn Transport Model

6.3.1 The Paramics modelling will take inputs from the existing Kings Lynn Transport Model which covers a wider area and has been used in the Outline Business Case (OBC) for the Proposed WWHAR Scheme. The model was developed in line with DfT's TAG guidance and is calibrated and validated within acceptable industry recognised standards. A Local Model Validation Report has been issued to DfT.

6.3.2 The forecasting includes a 'core' central growth scenario developed with district-wide demographic growth constrained to TEMPro version 8.0. TEMPro and NRTF factors have been assigned to the origin and destination totals for each base year zone and increased appropriately in accordance with TAG Unit M4: Forecasting and Uncertainty.



6.3.3 Forecast models are available for 2027 (Proposed Scheme opening year) and 2042 (Design Year) which have been produced with core growth demand matrices. The 'Do Minimum' (DM) scenario for 2027 and 2042 contain a network without the Proposed Scheme but including the 300 dwellings within the WWGA that are non-dependent plus other background growth and committed developments.

6.4 Background Traffic Growth

6.4.1 TEMPro forecasting is used to control the district-wide growth totals for each local authority area. The NTEM (National Trip End Model, traffic forecasts as published by DfT) v8.0 is taken as the District wide totals with the core planning assumptions for houses and jobs as the basis for applying a constraint on background development growth across the strategic model areas. For the future years of 2027 and 2042 the specific major development sites to be considered have been added separately with new development zones and centroid connectors added where necessary, so that traffic is loaded onto the network in the immediate vicinity of the site. The NTEM forecast totals of houses and jobs for each District have been adjusted to exclude these specific sites to avoid double counting.

6.4.2 The matrix is constrained at the full matrix level. Given the extent of the model the majority of the trips fall within Norfolk and therefore this has been selected as the area from which to obtain the trip end growth factors and apply them to the whole matrix at user class level. Planning assumptions in this case have not been modified as the level of household and job growth seems realistic and future housing information for the whole of the county is not readily available. This approach is desirable as it does not alter what is stated in NTEM 8.0. Table 6-1 shows the planning data growth between 2022 (post-COVID) and the forecast years.



Table 6-1 - NTEM 8.0 (Core) Norfolk Planning Data Growth

Year	County	<16	16-74	75+	HHs	Jobs	Workers
2022 – 2027	Norfolk	-6,013	-773	15,891	10,247	15,001	11,570
2022 – 2042	Norfolk	-10,753	-165	52,348	40,961	26,757	21,122

6.4.3 These factors were applied to the car user classes only, given TEMPro considers Car only. LGV and HGV growth factors were determined using National Road Traffic Projections (NRTP) 2022. These are presented in **Table 6-2** and **Table 6-3** for 2019 – 2027 and 2018 – 2042.

Table 6-2 - LGV and HGV Growth factors (2019 - 2027)

Locality	LGV	HGV
East of England	1.161	1.045

Table 6-3 - LGV and HGV Growth Factors (2018 - 2042)

Locality	LGV	HGV
East of England	1.351	1.135

6.5 Committed Development

6.5.1 All major developments that are ‘near certain’ or ‘more than likely’ have been included in the updated model baseline forecasting for the Core scenario in 2042. An Uncertainty Log is provided as **Appendix 8** of the TA (Document Reference **NCC/4.01.08/WWHAR**)



6.6 Committed Infrastructure Enhancements

6.6.1 The assessment will consider other major developments in close proximity, as set out within the agreed Uncertainty Log for the model update.

6.6.2 Committed highway schemes to be considered within the TA are as follows:

- The King's Lynn Sustainable Travel and Regeneration Scheme received funding from the Department for Transport (DfT) in January 2023. The scheme has the aim to support sustainable economic growth in King's Lynn by revitalising outdated infrastructure to promote active travel and connect the town's primary entry point with housing and commercial sites.
- The STARS project comprises of two parts – the Gyrotory scheme in the town centre and the Southgates scheme which aims to reconfigure the road network around the Southgates junction. This has been included in all of the baseline Do Minimum forecasting for the Proposed Scheme.

6.6.3 The following committed developments in the uncertainty log presented below in **Table 6-4** also have highway network changes associated with them. These changes have been incorporated into the forecast networks for 2027 and 2042.



Table 6-4 Committed Developments

Site Address	Planning Reference	Planning Proposal
Hall Lane	17/01106/OM	Main site access on Nursery Lane and secondary site access on Meadow Road.
Hall Lane	17/01151/OM	Site access via new 4-arm roundabout on Edward Benefer Way.
Land West of Knights Hill Village, Grimston Road, South Wootton	16/02231/OM	New access via a new roundabout off the A148 (Grimston Road), upgrade of the existing access from Ullswater Avenue via Sandy Lane, signalisation of Langley Road/Grimston Road junction.
South of Parkway	21/01873/FM	Site access via two new priority T-junctions junctions off Parkway and implementation of a new 20mph Zone on Parkway, Queen Mary Road and Queensway.
Morston Point	14/01114/OM	Site access roundabout and site access priority junction.



7 Impact Assessment

7.1 Impact on Non-Motorised Users (NMU)

- 7.1.1 This element is considered within the STS (Document Reference NCC/4.02.00/WWHAR) which contains a review of the existing sustainable transport provision for Non-Motorised Users (NMUs) in the TA study area. This will consider future activity within the study area and surrounding highway network derived from the WCHAR study. The aim is to identify how the provision of the WWHAR may impact upon these sustainable transport users and identify opportunities for enhancing accessibility.
- 7.1.2 Impact of the proposed WWHAR scheme on the existing Public Rights of Way (PRoW)s and cycleways will also be considered in the STS, and where relevant any measures to address the severance of paths will be described.
- 7.1.3 Potential accessibility and severance effects of the proposed Non-Motorised User (NMU) strategy localised to the scheme will be evaluated using GIS isochrone mapping analysis to show the existing and proposed situation with and without the scheme. Desire lines are also identified in Appendix 3 of the STS (Document Reference **NCC/4.02.03/WWHAR**)
- 7.1.4 The ES chapter also considers wider effects of the scheme in terms of access to bus services, facilities and services as well as severance of NMUs crossing existing roads due to increases or decreases in traffic as a result of the new highway link.
- 7.1.5 Reference will also be made to the final package of sustainable transport interventions and opportunities for improvement taken forward as complementary measures to support the scheme, seeking to achieve mode shift on shorter journeys.

7.2 Assessment of Traffic Impacts

- 7.2.1 Two 'Do Something' (DS1 and DS2) scenarios have been developed within the KLTM and the Paramics model. DS1 includes the proposed WWHAR highway link in addition to the Do Minimum assumptions and the non-



dependent 300 dwellings within the WWGA. The DS2 Scenario additionally includes the 3,700 non-dependent dwellings within the WWGA.

- 7.2.2 The demand matrix from the KLTM for the Paramics model study area junctions will be extracted for 2019, 2027 and 2042 model and used within the Paramics model to create the forecast scenarios for the DS1 and DS2 scenarios. An intermediate assessment year of 2037 will be created to consider impacts 10 years after opening as this is considered to be a proportionate approach that is broadly aligned with the Local Plan and Local Transport Plan horizon years.
- 7.2.3 Base year results for 2018 and forecast year results for 2027 and 2037 will be presented in the TA with analysis of results based on queue lengths and levels of service.
- 7.2.4 Results will be compared with the baseline forecast results for the same modelled year to understand the impact of the scheme and need for traffic mitigation.
- 7.2.5 In the assessment year, at priority and signalised junctions ('T junctions, crossroads and roundabouts) where the Level of Service falls below E as a result of the Proposed WWHAR Scheme, mitigation will be considered. However, if a junction is already showing poor levels of service in the Do Minimum scenario, the mitigation scheme would only be required to make the junction no worse off.
- 7.2.6 AADT Link flow changes will also be used to consider and assess requirements for traffic management measures across the wider network, This will be considered based on the KLTM results used as the basis for the Environmental Statement. An ES Chapter on Traffic and Transport will also be supplied.

7.3 Road Safety Impact of the Scheme

- 7.3.1 This section of the report will provide a qualitative assessment of the impact on the road safety of all users both Non-Motorised and Motorised. It is



envisaged that this impact will be mainly positive as a result of traffic relief to other routes. However, the need for additional safety improvements will be considered in locations where traffic significantly increases as a result of the scheme proposals.

7.4 Mitigation

7.4.1 For all junctions assessed in the Paramics model scope, mitigation measures may be required where an impact has been identified through qualitative assessment for example where severance issues reduce opportunities for crossing existing roads.

7.4.2 Sustainable Transport Interventions as set out within the STS (covering NMU enhancements in the vicinity of the proposed scheme, wider non-car interventions and traffic management measures) will be summarised with the main opportunity for transforming the existing A10 into a more user-friendly and sustainable travel corridor with improved crossing facilities, increased bus priority and active travel provision to make it a more attractive place for the increase population at the WWGA to live and work in the future.

7.5 Construction Traffic Impact

7.5.1 The construction programme and its phasing will be produced for ES purposes and will be reviewed with regards to impacts on the transport network. Assumptions about site access and traffic management will be discussed with the County Council once they have appointed a Principal Contractor with the aim to minimise any construction related impacts. An Outline Construction Environmental Management Plan (OCEMP) has been prepared and will be appended to **Chapter 18 of the ES** (Document Reference **NCC/3.18.01/WWHAR**)

7.5.2 In order to assess the impacts of construction traffic on the surrounding highway network the materials schedule will be used to inform the number of vehicle movements expected to arrive and depart from the WWHAR construction site at the peak period of construction. Assignment assumptions



will be developed with guidance form the main contractor regarding potential sources of materials and disposal sites for waste.

- 7.5.3 The scheme is expected to be split into three parts (WWHAR main alignment, A47 dualling and Hardwick Interchange works. The phasing of works will be explained in Chapter 3 of the ES as well as the location of compounds, and
- 7.5.4 The ES chapter will consider the combined effects of the WWGA development proceeding in parallel with the Proposed Scheme also under construction simultaneously as a robust case.
- 7.5.5 During the construction of the Proposed WWHAR Scheme, other major schemes in the local area may be simultaneously under construction. This will be considered where relevant as part of the Cumulative effects element of the ES.